system, while the casings of an N-track system are separated by around (N × 50) meters.

These two architectures each comprise advantages and drawbacks, which may be summarized as follows:

Advantages of monotrack architecture (Figure 1)	Advantages of multitrack architecture (Figure 2)
• Quality of the signal transmitted: the analog lines (from the track to the casing) are short and insulated from one another. • Flexibility of deployment in the field (the cable C is simple and lightweight to handle, and it is therefore easy to tailor it to the local topography (so as to bypass obstacles for example) • Simplicity of the main cable 10, and of the connectors of this cable with the casings B(i). • Reduced size of the casings B(i) and of the cable C.	• Reduction in the number of main cable/casing couplings (divided by 4 in the example of Figure 2; by N in the general instance of a system with N tracks) and in the associated cost. • Reduction in the number of casings and in the associated cost.
Drawbacks of monotrack architecture (Figure 1)	**Drawbacks of multitrack architecture (Figure 2)**
• Large number of cable C/casing couplings (2 connections per track). • Number of casings (1 per track); associated costs of equipment and handling.	• Lack of flexibility (system whose basic element is an assembly of N tracks). • Weight and complexity of the cable C'.

	• Problems regarding the quality of the analog signals received by the casings B'(j): several neighboring strands contained within the same sheath convey low-level detectable analog signals, this possibly giving rise to crosstalk. Moreover, the sensitive analog links between the sensors of a track and their associated casing may be lengthy (for example 125 meters for a 6-track system).

The two architectures described hereinabove have moreover common drawbacks:

Firstly, the number of couplings R or R' is sizeable, even if this number is reduced in the instance of a multitrack system. Since the data acquisition installations can be moved in the field, one and the same piece of hardware comprising the tracks and the casings is successively deployed and gathered up at various locations, this involving very many operations for making and undoing the multiple couplings of the system. It is therefore understood that this large number of couplings is especially detrimental in terms of cost of labor and timescales.

Another drawback common to both types of system is that each of the casings which they employ comprises two connectors for coupling with a main cable. The presence of these connectors on the casing constitutes a sizeable obstacle to the miniaturization of the casing, while present-day technological developments make it

possible to substantially reduce the bulkiness of the other components of the casing. It would nevertheless be advantageous to reduce the size of the casings, which at present constitute voluminous elements of the systems and may be an impediment to the laying and gathering operations.

A third drawback common to present-day systems stems from the fact that it is sometimes necessary to supplement the couplings between the main cable and the casings with load take-up devices, such as portions of tension cables, one end of which is fixed to a part of the electrical cable close to the casing and the other end of which is mounted, in a removable or nonremovable manner, on the casing itself.

This arrangement may be necessary when the assembly formed by the cables and the casings is subjected to tensile loads, for example when submerging the assembly in water traversed by a strong current.

Such load take-up devices increase the complexity and the time required for employing the system, since when mounting and demounting casings provided with removable load take-up devices, the connecting and disconnecting of the electrical cables and of the casings must be accompanied by the mechanical stowing and unstowing of said load take-up devices.

Moreover, the load take-up device (comprising means on the casing, such as for example rings secured to the casing) constitutes just like the connectors an obstacle to the miniaturization of the casings.

Furthermore in the two known types of architecture, it is necessary to handle two families of objects having very different dimensions: the casings and sections of